

WRITTEN PESTICIDE HANDLER TRAINING PROGRAM FOR

WILBUR-ELLIS SPORAX®, NISUS CELLU-TREAT®, BORAX FUNGICIDES FOR CONTROL OF HETEROBASIDION ROOT DISEASE XXXXXXX National Forest March 2010

RESOURCE LIST:

1. SPORAX label, Wilbur-Ellis Company, Version F-703-1
Available online at <http://www.cdms.net/LDat/ld1NU001.pdf>
2. SPORAX Material Safety Data Sheet (MSDS), Effective February 5, 2002
Available online at <http://www.cdms.net/LDat/mp1NU002.pdf>
3. CELLU-TREAT label and MSDS, Effective January 2009
Available online at http://cellutreat.com/Cellu-Treat_H%20Annosum_flyer-label-MSDS_01-09.pdf
4. Human Health and Ecological Risk Assessment for Borax (Sporax®) – Final Report, February 2006.
Available online at <http://www.fs.fed.us/foresthealth/pesticide/risk.shtml>
5. CDPR Pesticide safety Information Series (PSIS) leaflets:
Available online at <http://www.cdpr.ca.gov/docs/whs/psisenglish.htm>
 - PSIS A-1, Working Safely With Pesticides on Farms
 - PSIS A-2, Storing, Moving and Disposing of Pesticides on Farms
 - PSIS A-4, First Aid
 - PSIS A-7, Washing Pesticide Work Clothing
 - PSIS A-8, Safety Rules for Pesticide Handlers on Farms
6. “The Safe and Effective Use of Pesticides, 2nd Edition”, UC IPM Publications
Available for purchase online at http://www.ipm.ucdavis.edu/IPMPROJECT/ADS/manual_safeeffectiveuse.html
7. USFS Handbook 2109.14, Pesticide-Use Management and Coordination Handbook
8. USFS Handbook 6709.11, Health and Safety Code Handbook
9. Powerpoint Presentation on Borax, by David Bakke
10. Regional Inspection Form for Pesticide Storage Facilities

PRODUCT SUMMARY

Wilbur-Ellis SPORAX is a white, odorless crystalline product which is applied to freshly-cut conifer stumps to prevent Heterobasidion root disease, caused by the fungus *Heterobasidion annosum*. Nisus CELLU-TREAT is a white, odorless powder product with the same use.

ACUTE (SHORT-TERM) HAZARDS

SPORAX and CELLU-TREAT are both low oral and dermal toxicity pesticides in Class III,. SPORAX carries a DANGER signal word, due to the fact that it is a severe eye irritant. CELLU-TREAT carries a CAUTION signal word. Primary body entry routes are through the skin and eyes. Immediate or acute health hazards from overexposure may be judged by comparing SPORAX's and CELLU-TREAT's toxicities with standard toxicity ranges. The higher the number in the chart, the less toxic the material is to test animals.

TOXICITY				
TOXICITY CLASS		Units	Dermal LD 50 mg/kg	Oral LD 50 mg/kg
DANGER	I		200	<50
WARNING	II		200-2,000	50-500
CAUTION	III		2,000-20,000	500-5,000
SPORAX			>2,000	>6,000
CELLU-TREAT			>2,000	2,550

Accidental ingestion of SPORAX or CELLU-TREAT may include nausea, vomiting, diarrhea, and abdominal pain. Borax is absorbed through damaged skin, but SPORAX or CELLU-TREAT are not expected to cause skin irritation if handled properly. The EPA has not required inhalation studies for borax. Borates are not metabolized by humans and animals and are excreted in the urine, with halftimes in humans of about 13 hours.

CHRONIC (LONG-TERM) HAZARDS

Borax is not classified as an agent which causes cancer, genetic damage, or birth defects. Studies have indicated that chronic exposure to borax may cause reproductive damage and infertility; the developing fetus and the adult male testis are the primary targets. An EPA review has classified the related compound boric acid as a Group E carcinogen (evidence of non-carcinogenicity for humans). Borax does not affect the nervous or immune systems.

SAFETY PROCEDURES

Do not get in eyes or on clothing. Applicators and handlers must wear goggles or face shield, long-sleeved shirt and long pants, shoes, socks, eye protection, and chemical resistant gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

SPORAX and CELLU-TREAT do not fall under the Worker Protection Standards, so there is no Restricted Entry Interval.

Do not leave container where children or animals may gain access. Spills can be swept up and placed back in original container for use. Thoroughly wash or shower after cleaning up a spill.

Don't apply SPORAX or CELLU-TREAT in a way that exposes others. Do not carelessly spill or apply SPORAX or CELLU-TREAT to croplands, ornamental plants, lawns, or desirable trees. Borax and other boron compounds at high levels may kill plants (at application levels approximately 2-5 times higher than used for stump treatments). Borax may be used as a nonselective herbicide. Borax may be a hazard to endangered plant species if it is applied to areas where they live. However, boron is an essential nutrient for plants, and boron compounds (including borax) occur widely in nature. Boron is taken up from soil by plants in proportion to the amount of boron in the soil. Borax is also used in fertilizer formulations to supply boron, which is an essential plant nutrient. Borax is practically nontoxic to birds and fish, relatively nontoxic to insects, and practically nontoxic to aquatic invertebrate animals. It does not build up (bioaccumulate) in fish.

STORAGE

SPORAX and CELLU-TREAT should be stored in a dry place where children and animals cannot gain access. Adequate posting of the storage area is required (Refer to PSIS A-2, also FSH 2109.14, Chapter 40). SPORAX and CELLU-TREAT may absorb moisture and form larger "chunks". These pieces may be carefully broken and the product may still be used. If the entire SPORAX bag is not used the day of opening, carefully re-seal the bag and/or overpack with a waterproof plastic bag. Emptied bags may be disposed of in a commercial landfill.

Any service containers will be labeled with the product name, the chemical name, the US EPA registration number, and the signal word. The service container will also provide the name and address of the operator.

ENGINEERING CONTROLS

SPORAX is a ready-to-use formulation. CELLU-TREAT is mixed with water before application. No special engineering controls are required. Follow label instructions and applicable state or federal use guidelines.

SIGNS OF POISONING AND EMERGENCY MANGEMENT

- IF SWALLOWED: Symptoms of poisoning include nausea, vomiting, diarrhea, and abdominal pain. Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor.
- IF IN EYES: Hold eyelids open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye.
- IF ON SKIN or CLOTHING: Remove contaminated clothing and wash skin with soap and water. Rinse skin with plenty of water for 15-20 minutes.
- IF INHALED: Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.

Location of PSIS A-8: Procedures for handling emergencies and the location of the nearest medical treatment are printed in PSIS A-8 (or N-8) located :

Location of Other Required Documents: In addition to the PSIS A-8, The MSDS and other PSIS leaflets are located:

MEDICAL SUPERVISION — Not required for SPORAX or CELLU-TREAT. Follow label first aid statements.

Safety Instructions Specific to This Worksite

Specific Equipment Used and Safety Instructions

EMPLOYEE'S RIGHTS

You, your physician, or your representative, have the right of access to the SPORAX and CELLU-TREAT labels, MSDSs, pesticide use records, training records, and PSIS leaflets within 48-hours of your request. You are protected against discrimination or discharge due to requests for this information.

NAME OF EMPLOYEE (PRINT)

SIGNATURE

TRAINER'S SIGNATURE

DATE